

REMARKS

In the Office Action mailed January 27, 2005, the Examiner noted that claims 1-20 were pending, and rejected claims 1-20. Claims 1-20 remain pending for reconsideration which is requested. No new matter has been added. The Examiner's rejections are traversed below.

Claim 2 has been amended to correct a spelling error.

In the Action the Examiner rejected claims 1-18 and 19 as directed to non-statutory subject matter asserting that the claims recite nothing more than abstract ideas with no useful result. The claims, as noted by the Examiner, are written in the form of apparatus claims. The claims call for "a prediction unit" and "an analysis unit". The specification describes that these units can be, among other things, computer programs running on computers and neural networks. It is a basic principle of patent law that claims are not interpreted in a vacuum and that the specification is considered when interpreting the claims. It is submitted that those of skill in the art reviewing the claims would understand that the units referred to in the claims are not just abstract ideas, as asserted by the Examiner, but rather embodied in the technological arts described in the specification. Further, the claims recite producing a result value that agrees with a desired predicted value. This is a tangible and useful result as much as is a weather prediction. It is submitted that the claims satisfy the requirements of 35 USC 101 and withdrawal of the rejection is requested.

On page 2 of the Office Action, the Examiner rejected all claims under 35 U.S.C. § 102 as anticipated by Tsukimoto. In making the rejection with respect to claim 1, the Examiner compared the "prediction unit" with the teachings of Tsukimoto, col. 2, lines 34-53 and compared the "analysis unit" with the teachings of Tsukimoto, col. 2, lines 54-62. This text particularly states:

To achieve the above-noted objects, the present invention is a neural network analysis apparatus comprising: input means for inputting a multilinear function that represents each hidden unit and an output unit of a trained neural network to be analyzed; a function-extracting apparatus, which approximates a multilinear function that represents each unit with a Boolean function, said function extracting means being provided in accordance with each hidden and output unit of said neural network; and a Boolean function-synthesizing apparatus for synthesizing Boolean functions, which synthesizes Boolean function obtained by each function-extracting apparatus, said function-extracting apparatus comprising a term generator that generates each term of said Boolean function, and a term-linking apparatus that links terms generated by said term generator using a logical sum, and said term generator having a data-limiting apparatus that limits learning data to a domain corresponding to a term that judges whether said term exists in a Boolean function after approximation.

(See Tsukimoto, col. 2, lines 34-53)

In this aspect of the present invention, because the units of a neural network are represented by Boolean functions which are abstract classical logic propositions from natural language, the resulting propositions are easy for a human to understand, thereby providing an understanding of which unit has learned which proposition or concept. Furthermore, because the Boolean functions used in the approximation are the closest in the learning data domain, predicted values are not included, resulting in highly accurate Boolean functions.

(See Tsukimoto, col. 2, lines 54-62)

As can be seen from the above discussion the text at col. 2, lines 54-62 simply describes a different version (a Boolean function version) of the neural network apparatus described in col. 2, lines 34-53. That is, the Examiner points to different versions of the same thing in Tsukimoto for two completely different things in the present claimed invention. The same neural network in different versions cannot be both a prediction unit and an analysis unit that analyzes the prediction. The Examiner has not established a prima facie case of anticipation. For this reason withdrawal of the rejection is requested.

Assuming for arguments sake that the Examiner comparisons noted above are acceptable, the present invention distinguishes over Tsukimoto for the reasons discussed below.

The present invention of claim 1 calls for an analysis unit that analyses a prediction ("a result value") and determines how to change ("to be amended") an attribute to cause a change to the prediction so that the prediction becomes or is changed "into a desired prediction value". Tsukimoto does not teach or suggest such and, as can be seen from a review of the text set forth above, the portions of Tsukimoto alleged by the Examiner as teaching this say nothing about this. For this further reason, withdrawal of the rejection is requested.

Further, the text noted above discusses the use of the Boolean representation as allowing a human to see "which unit has learned". However, the fact of which unit has learned has nothing to do with what value of an attribute is necessary to cause a predicted result to agree with a desired result. For this additional reason, withdrawal of the rejection is requested.

It is submitted that the present claimed invention patentably distinguishes over Tsukimoto and withdrawal of the rejection is requested.

It is submitted that the claims satisfy the requirements of 35 U.S.C. 101. It is further submitted that the claims are not taught, disclosed or suggested by the prior art. The claims are therefore in a condition suitable for allowance. An early Notice of Allowance is requested.

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If any further fees, other than and except for the issue fee, are necessary with respect to this paper, the U.S.P.T.O. is requested to obtain the same from deposit account number 19-3935.

Respectfully submitted,

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